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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/965,669	09/27/2001	Jeffrey Soon Beng Sim	934.134US1	2850

21186 7590 06/21/2004

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EXAMINER

DUNCAN, MARC M

ART UNIT	PAPER NUMBER
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2113

DATE MAILED: 06/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/965,669

Applicant(s)

BENG SIM ET AL.

Examiner

Marc M Duncan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21-25 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5-10, 12, 19 and 20 is/are rejected.
- 7) ☒ Claim(s) 3, 4, 11, 13-18 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Status of the Claims

Claims 3, 4, 11, 13-18 and 20 are objected to.

Claims 5-8 are rejected under 35 U.S.C. 112, second paragraph.

Claims 1, 2, 9, 12 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamamoto et al.

Claims 10 and 19 are rejected under 35 U.S.C. 103(a) as being obvious over Yamamoto et al. in view of Aoki.

Claims 21- 25 are allowed.

Claim Objections

Claim 20 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. It was previously stated, on line 1 of claim 12, that the mass storage device is a disc drive.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites the limitation "the plurality of segments" in lines 2 and 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitation "the plurality of segments" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitation "the plurality of segments" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 8 recites the limitation "the plurality of segments" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Each of these claims depends, ultimately, from claim 1. Each claim contains a reference to a plurality of segments of the defect table on the recording medium as well as a plurality of segments of the defect buffer in the volatile storage medium. It is not clear to which plurality the statement "the plurality of segments," as noted above, is referring in each claim. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 9, 12 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamamoto et al.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claim 1:

Yamamoto teaches obtaining the defect table from the recording medium of the mass storage device, wherein the defect table is partitioned into a plurality of segments that are physically distributed throughout the recording medium in Fig. 4, par. 0026 lines 1-2 and par. 0093 lines 2-4. It can be seen in Fig. 4 that the defect list is separated into two partitions that are physically distinct and distributed from each other.

Yamamoto teaches copying at least one of the plurality segments of the defect table into a volatile storage medium, the volatile storage medium being operably coupled to a microcontroller of the mass storage device in par. 0093 lines 2-4. RAM is a volatile storage medium.

Regarding claim 2:

Yamamoto teaches wherein the obtaining step further comprises the step of: reading the defect table from the recording medium of the mass storage device in par. 0093 lines 2-6.

Regarding claim 9:

Yamamoto teaches wherein the mass storage device further comprises a disc drive in Fig. 1.

Regarding claim 12:

Yamamoto teaches a disc drive, comprising: a base; a disc rotatably attached to the base; an actuator for carrying a transducer head in a transducing relation with respect to the disc; and a disc drive controller, communicatively coupled to the actuator in Fig. 1. An HDD as pictured in Fig. 1 contains each of the above claimed components.

Yamamoto teaches an obtainer of the defect table from the recording medium of the mass storage device, wherein the defect table is partitioned into a plurality of segments in Fig. 4, par. 0026 lines 2-4 and par. 0093 lines 2-4.

Yamamoto teaches a transferor of one of the plurality of segments of the defect table into a defect buffer in a volatile memory device, the transferor being operably coupled to the obtainer in par. 0093 lines 2-4.

Regarding claim 20:

Yamamoto teaches wherein the mass storage device further comprises a disc drive in Fig. 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 10 and 19 are rejected under 35 U.S.C. 103(a) as being obvious over Yamamoto et al. in view of Aoki.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned

by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Regarding claim 10 and 19:

The teachings of Yamamoto are outlined above.

Yamamoto does not explicitly teach the volatile memory device being a cache. Yamamoto does, however, teach the use of a volatile memory device to store a defect buffer.

Aoki teaches the volatile memory device being a cache in Fig. 2.

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the cache of Aoki with the volatile memory of Yamamoto.

One of ordinary skill in the art at the time of invention would have been motivated to combine the teachings because the use of a cache increases speed, an inherent need in the A/V system of Yamamoto.

Allowable Subject Matter

Claims 3, 4, 11 and 13-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Prior art was not found that explicitly teaches or fairly suggests determining at least one of the plurality of segments of the defect table that are associated with the most recently used plurality of data regions of the mass storage device as outlined in claims 3 and 13. Prior art was not found that explicitly teaches or fairly suggests

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determining that the predetermined size of the defect table is greater than the predetermined size of a defect buffer in the volatile storage medium as outlined in claims 4, 14 and 21. Prior art was not found that explicitly teaches or fairly suggests wherein the cache further comprises a cache selected from a group consisting of an associative cache, a first-in-first-out cache, a multilevel cache, a single level cache, a chained cache, and a linked list cache as outlined in claim 11. Prior art was not found that explicitly teaches or fairly suggests an adapter, that adapts the quantity of the one or more segments of the defect buffer in the volatile memory device to the application as indicated by the source as outlined in claim 16. Prior art was not found that explicitly teaches or fairly suggests an adapter of the quantity of the one or more segments in the defect buffer to the quantity of defects found during a manufacturing test process as outlined in claim 18.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art not relied upon contains elements of the instant claims and/or represents a current state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc M Duncan whose telephone number is 703-305-4622. The examiner can normally be reached on M-T and TH-F 6:00-4:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on 703-305-9713. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

md


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